



*Dendrobates tinctorius*  
(2 White morph variants).

# AMERICAN DENDROBATID GROUP

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*Ectotherm Scientific*

## STATEMENT OF PURPOSE

The purpose of the American Dendrobatid Group (ADG) is to educate enthusiasts and distribute information on all aspects of Dendrobatid husbandry and captive propagation, and to develop better communication between Dendrobatid breeders. The ADG is also interested in the maintenance and propagation of Mantellid frogs, Atelopid toads, and other unusual frogs and toads. Its format and bi-monthly distribution are designed to provide current information and new developments in the hobby. This Newsletter appears six times a year at a cost of \$15.00 per calendar year. Back issues for \$3.00 each, or on a yearly basis: 1992 is available for \$5.00; 1993 and 1994 for \$10.00/year, and 1995 for \$12.50.

Subscriptions, comments, articles, photographs, etc. should be sent to Charles Powell (2932 Sunburst Dr., San Jose, CA 95111 Tel.: (408) 363-0926).

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## Notes from the Editor

Welcome to 1996 and the beginning of the fifth year of the ADG. I think it going to be a great year and a few new things are already starting. If everything develops as planned we will have illustrations, perhaps color, perhaps black and white, at least once during the year, possibly more. Also some unusual frogs are being made available through a member of the German Dendrobatid Group. Look in the "Ad" section for details.

Below is the best article I've ever read explaining taxonomy (and I'm a molluscan taxonomist/paleontologist by profession). Many among you will say, who cares? Read the article below and I'm sure you'll see why we should all care what our animals are named, and why. Good reading.

## Taxonomy: the making of scientific names Where do they come from, what do they mean, what rules govern them?

Reprinted with permission from "The Vivarium," 6(4): 14-17, January-February 1994

Robert George Sprackland

The process of naming living organisms, with an eye on illuminating relationships, when done in a scientific manner, is termed taxonomy. Taxonomy is a branch of a more encompassing field called systematics, which seeks not only to name but to determine degree of relationships and path of evolutionary history. Though many systems are tried and rejected over the centuries, the pressing need for a stable nomenclature continued, and was initially codified in a manner acceptable to most scientists in 1753 by a Swedish botanist named Carl von Linné (Latinized as Carolus Linnaeus).

### Where do scientific names come from?

Linne's system was not an earth-shaking new idea, rather it was taken and modified from a variety of earlier ideas of uniting organisms based on shared, observable similarities, and looking

beyond superficial anatomical similarities or habitat preferences. Linné's greatest contribution came in the language of his system. He circumvented the nearly universal jingoism of the time, that any nomenclatural system be in a particular modern language of the day by choosing a "dead" language to speak the parlance of living things. Latin was well known to most educated Europeans of the mid-eighteenth century, so Linné named his plants (and, later, animals) in Latin. Additionally, as a "dead" language, Latin was not likely to evolve new meanings for established words (considered the English "bad" as used by your mother and as used by, not about, your favorite musical group; or "hot" describing first, temperature, or next, venomous snakes). Using Latin apparently disturbed no one of consequence, and is the main reason the system quickly became accepted and used around the world. (It might also be argued that a second, equally compelling reason for Linné's success is that his classification was based upon the sexual organs of plants. In the puritanical and sexually repressed Western societies of the time, almost any mention of sex, however peripheral, caused a book to become a sensation, which may help explain why Linné's books were always sell-outs.)

The Swedish father of taxonomy did not only restrict his names to words of Latin origin, thus accounting for the predominance of words of Greek origin for many animal genera, but insisted that any words chosen must be latinized. For example, the lizard genus *Basiliscus* derives from the Greek word for "king beast," *Shinisaurus* is named for Chinese Professor Shin, and *Phelsuma* is the Latinized version of a Dutchman's name. While all the world's taxonomists adhere to this format, it does often provide some interesting, almost unpronounceable epithets. Names may honor people, place, anatomical features, chromosome structures, color patterns, or sheer nonsense. The famous English zoologist John Edward Gray (who essentially founded the herpetology section of the Natural History Museum in London during the mid-1800's) was a self-taught man unfamiliar with classical languages. Many of his coined names, such as *Corucia* and *Egernia* mean nothing specific in any language. However, they conform to the rules of being pronounceable and Latinized, and so are valid generic names. In short, the name can come from anywhere, so long as they are translated into the Latin format. Linné must have been pretty impressed with himself, for he even Latinized his own name into the more familiar Carolus Linnaeus.

### What do the names mean?

We can see from Gray's example that the names don't necessarily have to mean anything. Sometimes the names are coined simply for the amusement of the namer and a few specialists. For many groups, species are named for zoologists or people who have contributed to zoology. More than half the named monitor lizards are so named for people (as is the longest complete dinosaur skeleton, *Diplodocus carnegii*, named for the Pennsylvania entrepreneur/philanthropist who financed the expeditions that lead to its discovery). Usually, just one person is honored by the trivial name: *mertensi*, *kingii*, *glauerti* being examples. Rarely, more than one person is so honored as in *Varanus kingorum*, for the unrelated Max King and Dennis King (had they been named Smith and Jones, the epithet would be a more unwieldy *smithjonesorum*, or, if coined by a Latin scholar, *smithionesorum*, as there is no "j" in classical Latin). Most frequently, zoologists name animals so that the name reflects some unusual feature or identifying characteristic. Thus, many species have been termed blue tailed (*cyanura*), unspotted (*immaculata*), collared (*col-laris*), flat-tailed (*platyurus*), keeled (*carinatus*), short-tailed (*curtus*), rock-dwelling (*thalassinus*), cloudy (*nebulosus*, *obscura*), or striped (*vittatus*). The choices for names are unlimited, but I provide a short list of some more familiar generic and trivial names. Note that most generic names are from Greek, while trivial names

often Latin. If you are really interested in translating your beastie's names, read one of the books listed at the end of this paper.

Common Name	Genus	Translation
Death Adder	<i>Acanthophis</i> (G)	Spine snake
Mole Salamander	<i>Ambystoma</i> (G)	Cup mouth
Dart Poison Frog	<i>Dendrobates</i> (G)	Tree climber
Leopard Gecko	<i>Eublepharis</i> (G)	Good eyelids
Anaconda	<i>Eunectes</i> (G)	Good swimmer
Gila Monster	<i>Heloderma</i> (G)	Studded skin
Kingsnakes	<i>Lampropeltis</i> (G)	Bright scales
King Cobra	<i>Ophiophagus</i> (G)	Snake eater
Bearded Dragons	<i>Pogona</i> (G)	Bearded one
Softshell Turtles	<i>Trionyx</i> (G)	Sharp claws

Trivial Names	Translation
<i>acanthurus</i> (G)	spiny-tail
<i>ater</i> (L)	black
<i>atrox</i> (L)	hideous
<i>bivittatus</i> (L)	two-spotted
<i>fuscus</i> (L)	brown/cloudy
<i>maculatus</i> (L)	spotted
<i>magister</i> (L)	teacher
<i>occidentalis</i> (L)	western
<i>melanocephalus</i> (L)	black-headed
<i>reticulatus</i> (L)	net-like
<i>viridis</i> (L)	green

### Rules governing names and naming

It often seems as if the scientific community has a vested interest in confusing people by periodically changing scientific names. After all, why else would American water snakes no longer be *Natrix*, or subspecies suddenly become species. Isn't taxonomy suppose to stabilize names? Arguments over such seemingly minor alterations can become quite acrimonious, not only between taxonomist and herpetoculturist, but between taxonomists from opposing viewpoints. Governing the naming of species is a series of rules, published by the International Code of Zoological Nomenclature (ICZN). Here is an outline of the major rules:

All scientific names are required to consist of two parts. The first part is the always-capitalized genus name, and the second is the never-capitalized trivial name. Combined, they form a species name, which is always to be italicized or underlined. A genus may have one species or many; if it has only a single species, then it is a monotypic genus. If it has many, it is species-rich (not "speciose" a word often used by evolutionary biologists who are, ironically, unaware that "speciose" is not evolved from the same root as "species," but is from the root for "specious"; or as a linguist would say, the words "species" and "speciose" are not etymologically consanguineous). Any named group-species, genus, family, order, etc., is also called a taxon (plural, taxa), but "taxon"

is not a particular rank, not always equated with "species" or "subspecies."

A genus or species must be described from a particular "typical" specimen that is preserved in a museum or university collected where other researchers may examine it. This original specimen is called a type. A holotype is the single specimen designated by a describer as the name-bearer for the new species. If there are many specimens available, one is designated a holotype, and the others listed as paratypes. If the types are lost or destroyed, a researcher may designate a replacement, or neotype.

Names, of course, must be Latin or Latinized, and the genus and trivial names are to be in gender agreement, e.g., *Crotaphytus*, a masculine term, must go with *collaris*, not the feminine *collara*. This is primarily an esthetic holdover from a time when all scholars actually knew the words to *Gandiamus Igitur*, and though no careers are in danger over publishing names not in agreement (there is provision for correction in the Code), it does seem to irk some people. Such is the price of tradition!

One of the most important rules concerns priority, thus assuring credit to the original namer of a taxon. According to the Code, the first published name is the proper name for an organism, barring very unusual circumstances. There is a famous example among the dinosaurs: *Brontosaurus*. The discoverer of skeletal remains of "*Brontosaurus*" was also the discoverer, a year earlier, of the giant *Apatosaurus*. It later turned out that "*Brontosaurus*" was just a different part of the already-named *Apatosaurus*, so *Brontosaurus* became a junior synonym. Technically that means that both beasts are the same critter, and if for any reason it should be shown that *Apatosaurus* is not a valid name (e.g., if it has already been used for, say, a beetle, or another dinosaur), then *Brontosaurus* would become the next available, and correct, name. For now, however, it's still *Apatosaurus*. In order for the Code to allow a later name to take priority, there must be a strong case that doing so will maintain taxonomic stability. For example, if a species is given a name in an obscure journal, then named by someone else in a more widely read journal, the researcher rediscovering the original article may petition to suppress the senior name in the interest of stability. Just such a case occurred in the 1980s with the California legless lizard (*Anniella*), with the result that the later (and familiar) name was retained.

In taxonomic accounts, the scientific name is often followed by the name of the original describer, and the year of publication of the name, e.g., *Varanus teriae* Sprackland, 1991. If, however, the original description placed the new species in a different genus, the describer's name is placed in parentheses: *Varanus indicus* (Daudin, 1802). In this case, Daudin described the lizard as *Tupinambis indicus*.

Perhaps the greatest confusion occurs when generic and species names are changed. After so many years of stability and familiarity with the green tree python as *Chondropython*, why is it now changed to *Morelia*? The answer is simple: after careful reviews by anatomists, it was determined that green tree pythons are not really significantly different from similar Australian species, and should be included in the older named genus *Morelia* (for the detailed studies, see Underwood and Stimpson, 1990, and Kluge, 1993).

More frequently, species names are changed (usually just to agree in gender with genus names), sometimes with confusing results. For example, G. Storr named a large Australian monitor lizard *Varanus panoptes* in 1980, but has not examined type specimens of similar species, including *V. gouldii*. Later, German varanid expert Wolfgang Boehme, examined the types in the British

Museum of Natural History (itself recently, and officially, renamed "The Natural History Museum") and noted that Storr's *panoptes* was identical with Gray's type for *gouldii*. Thus, *panoptes* ceased to exist as a species (except on some price lists), and its use is no longer justified. Unfortunately, the taxonomic literature and popular publications are not always aware of each other, resulting in the perpetuation of outdated or junior names.

One other important rule governing taxonomy is that new names or changes of names must be presented in published format. Mimeographs, e-mail, and other distribution systems do not constitute "formal" publications, and neither do graduate theses. So far, unrefereed publications can and do print new names, though the scientific community has found many legitimate errors in such presentations, and may urge the ICZN to close that loophole. Sometimes, changes are published in such a forum without much (if any) explanation, leading to vociferous debates, long printed rebuttals, and a bit of name calling among the antagonists (see Villa, 1993). There are safeguards, and a later reviewer may change a name back to an old name, or come up with something completely new. In short, there is always something requiring attention, another name to clarify, another species to describe for the first time.

Like it or not, good taxonomy is important to good herpetoculture. If you want to breed animals, it really helps to know if they are from the same species! If names change, don't see it as a cause for despair- rather, it signals that something new has been learned, giving you and the taxonomist more data. You may each use this information differently, but you are also both better off for having it now. Remember, too, that for every species you find particularly vexing to reproduce in captivity, the taxonomist is similarly confounded trying to find out just where in the vast animal kingdom that species truly belongs.

#### Useful References

- Borrer, D. J., 1971, Dictionary of word roots and combining forms. Mayfield Publishing Co., Palo Alto, CA.
- Gotch, A. F., 1986, Reptiles-their Latin names explained. Blandford Press, Dorset, England.
- International Code of Zoological Nomenclature, Third edition. 1985, London, England.
- Kluge, Arnold, 1993, Aspidites and the phylogeny of pythonine snakes. Records of the Australian Museum, supplement 19: 1-77.
- Quicke, D. L., 1993, Principles and techniques of contemporary taxonomy. Blackie Academic & Professional, London, England.
- Underwood, G. and Stimpson, A., 1990, A classification of the pythons (Serpentes, Pythoninae). Journal of Zoology, London, 221: 565-603.
- Villa, Jamie, 1993, Nomenclature changes in herpetology. The Vivarium, 5(2): 22-33.

#### HELPFUL HINTS

Both "Helpful Hints" this issue come from Mick Bajcar and the British Dendrobatid Group. Thanks.

*Drosophila* medium - Two recent events led me to experiment with new media for the culture of *Drosophila*, both of which are clean and very successful!

"I bought some white wine which even I found to be virtually undrinkable. Two thirds of the bottle was left which I mixed with hot oat cereal to the usual consistency. On another occasion I bought some fresh orange juice which had started to ferment. I dealt with this in the same way.

"The resultant cultures were excellent and smell-free. If you are a home wine maker it may be worth using the dregs from the demijohn to produce a medium."

**Springtails** - "At long last I have found a reliable method of culturing springtails. These tiny insects, which are essential for raising newly metamorphosed Mantella and the like, can be unpredictable to culture in any quantity. They seem to do best on a fibrous medium, and the best I have discovered is tree fern root. Unfortunately, I have never found this for sale in this country (Britain), but I begged a piece from Andrew Clements who had bought some while in Holland.

"The root is thoroughly soaked then placed in a margarine tub with a sealed lid. Springtails are added along with a little flake fish food. Kept warm, they multiply rapidly, and can be removed simply by tapping the piece of root. It is best to set up a new culture every three months or so, as cultures tend to crash. This is presumably due to the build up of some form of toxin. The old culture medium (the fern root) can be re-used if washed thoroughly. This method is simple and reliable and, perhaps best of all, the insects are extracted from the culture easily."

## NEW LITERATURE

### Atelopids

Berg, W. van den, 1995, *Atelopus* of harlekijnkikker. Dendrobatidae Nederland, 7(1): 7-12.

### Dendrobatids

Bauer, Luuc, 1995, Jewels of the Rainforest. Poison frogs of the family Dendrobatidae. Jerry

Wells. Een boek dat geen (pijl)gifkikker-liefhebber mag missen. Dendrobatidae Nederland, 7(1): 13-16.

Ooms, J. H., 1995, Verlichting, verwarming, ventilatie, vochtigheid. Dendrobatidae Nederland, 7(1): 4-5.

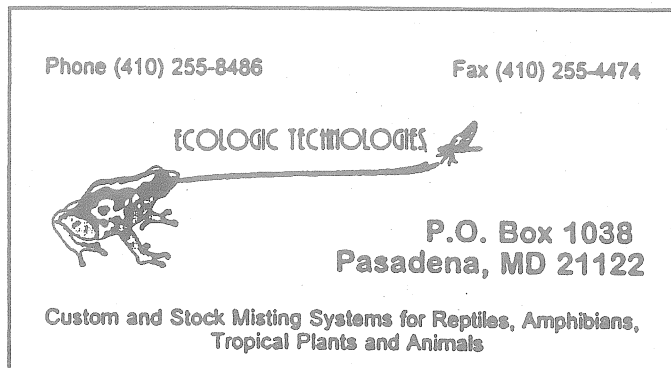
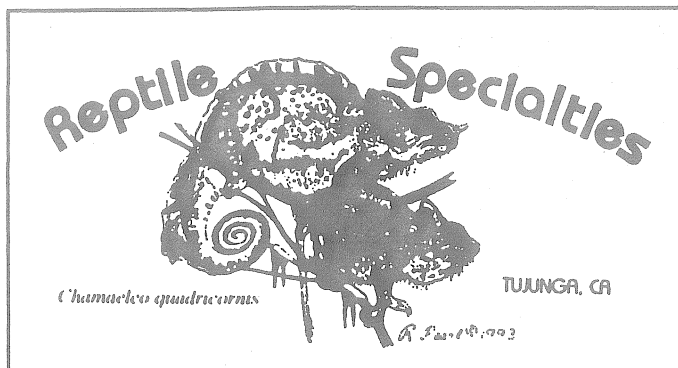
Weijden, Marcel van der, 1995, Mededelingen: 1995, a brave new world... Dendrobatidae Nederland, 7(1): 2-3.

### ADS:

Rates for business card adds are \$10 per issue or \$50 per year. If you are interested please contact the Newsletter editor.

A member of the GERMAN DENDROBATID GROUP is offered for sale captive-breed *Epipedobates silverstonei* and *D. reticulatus*. These frogs will be hand carried from Germany to California on or about January 22. Adult or near adult *D. silverstonei* will cost \$160 each (breeding groups of 4 for \$620, and adult or near adult *D. reticulatus* will cost \$45 each (breeding groups of 5 for \$210). There is also an additional charge of \$60 for CITES, shipping and containers. All orders should be pre-paid before the date of arrival of frogs. Questions and/or payment should be directed to the Newsletter editor (Charles Powell, 2932 Sunburst Dr., San Jose, CA 95111-2264 Tel.: (408) 363-0926). Please note that neither I or the ADG will make any money on this venture and so should not be held responsible in any way. I am just trying to make available captive breed frogs which have not previously been available in the US.

REPTILE SPECIALTIES (John Uhern, 7473 Foothill, Tujunga, CA 91042 Tel. (818) 352-1796; Fax (818) 353-7381) has various captive breed Dendrobatids and wild imported Mantella for sale. Write or call for information.



### For Sale

Ads for sale of frogs, or requests or offering of breeding loans, etc. are free to members and will run for two issues only, unless the Newsletter editor is notified.

<i>Dendrobates auratus</i> 'Hawaii'	\$30 ea.	Eric Anderson
<i>Dendrobates leucomelas</i> 'Orange'	\$60 ea.	12231 Newberry Rd.
<i>Dendrobates tinctorius</i> 'Cobalt'	\$50 ea.	Gainesville, FL 32607
<i>Epipedobates tricolor</i> (2 color morphs)	\$50 ea.	(904) 332-7908

<i>Dendrobates histrionicus</i> 'orange with black netting' - male	\$65	Tom Horn
<i>Dendrobates imitator</i> 'Green'	\$45 ea.	174 Elm St.
<i>Dendrobates pumilio</i> 'Strawberry'	\$40 ea.	Emmaus, PA 18049
<i>Dendrobates tinctorius</i> 'Powder blue' - male	\$95	

Many *Dendrobates tinctorius* morphs and some half grown *Dendrobates leucomelas* 'Orange' (from unrelated females). Also various CB "thumbnail" size unrelated Dendrobatids. Prices are negotiable. Ted R. Kahn (P. O. Box 1375, Sterling, VA 20164-1375. Tel.: (703) 242-4543.

<i>Dendrobates auratus</i>	\$25 ea.	Todd D. Kelley
<i>Dendrobates imitator</i>	\$50 ea.	1469 Okanogan Ave.
<i>Dendrobates tinctorius</i> 'powder blue'	\$75 ea.	Wenatchee, WA 98801
<i>Dendrobates tinctorius</i> 'yellow back'	\$75 ea.	(509) 665-9589
Red-eyed tree frogs	\$25 ea.	e-mail: TDKelley@aol.com

<i>Dendrobates auratus</i> 'El Copé, Panama'	\$35 ea.	Anthony Leiro
<i>Dendrobates leucomelas</i>	\$50 ea.	402 Holly Lane
<i>Dendrobates tinctorius</i> 'cobalt'	\$50 ea.	Chapel Hill, NC 27514
		(919) 929-3522

*Dendrobates auratus* 'Costa Rica'  
*Dendrobates leucomelas*  
10% discount for ADG members

\$25 ea.  
\$45 ea.

Eric Pflaging  
Hillside Herps  
220 Hillside Dr.  
Clermont, FL 34711  
(904) 242-1616

Established animals:

*Mantella expectata* (6)  
*Mantella pulchra* 'green' (6)  
*Mantella haraldmeieri* (2)

\$35 ea.  
\$35 ea.  
\$35 ea.

Charles L. Powell  
2932 Sunburst Dr.  
San Jose, CA 95111  
(408) 363-0926

will consider trades

Plants:

4" pot of *Anthurium amazone*  
miniture Anthurium with red flower  
4" pot - Bromaliads (6 to 8" tall)

\$5 ea.  
\$8 ea.

*Dendrobates azureus* 'F1 ex. wild adults'

\$150 ea.

Mark Pulawski  
4191 Weathered Oaks Lane  
Indian Springs, OH 45011  
(513) 896-5531

*Dendrobates auratus* 'Costa Rica'

\$40 ea.

Tim Staab  
1303-D Colbury Rd.  
Baltimore, MD 21239  
(410) 296-7075

Jack Wattle (2500 Sea Island Dr., Fort Lauderdale, FL 33301. Tel.: (305) 463-5011) is taking orders for F1 *Dendrobates azureus*: frogs \$150 ea., tadpoles \$125 ea. He also has a limited number of red, orange, and yellow *D. lehmanni* for sale for \$150 ea.

Wanted:

*Dendrobates fantasticus*- males (2)  
*Dendrobates tinctorius* 'giant orange'

Juan Casanova  
813 N.W. 23 Ct.  
Miami, FL 33125  
(305) 642-9694

*Dendrobates histrionicus* 'bulls eye' - male

Ron Gagliardo  
Atlanta Botanical Gardens  
Piedmont Park at Prado, Box 77246  
Atlanta, GA 30357  
(404) 636-5543



*Dendrobates azureus*  
*Dendrobates reticulatus* 'CB'  
*Phyllobates terribilis*

Jim Hartung  
1890 W. Hillcrest Dr.  
Newbury Park, CA 91320

*Dendrobates tinctorius* 'cobalt' - female

Brian Lang  
2010A S. 9th St.  
Manitowoc, WI 54220  
(414) 683-1759 evenings after 7 PM

*Epipedobates tricolor* (chocolate brown with three lime green stripes, light green marbled belly and red flash marks on the hind legs). Wanted for purchase or breeding loan. Contact John Lewis (717 Bromley Rd., Bromley, KY 41017. Tel.: (606) 344-8796).

*Dendrobates imitator* - female

Eric Pflaging  
Hillside Herps  
220 Hillside Dr.  
Clermont, FL 34711  
(904) 242-1616

*Dendrobates fantasticus* - male

Charles Powell  
2932 Sunburst Dr.  
San Jose, CA 95111-2264  
(408) 363-0926

## SOCIETIES

**AMERICAN TARANTULA SOCIETY:** For enthusiasts and scientists. Forum magazine (6/yr) educational, entertaining and readable. Over 150 Accurate scientific & common names of tarantulas and scorpions in each issue. Contact: ATS, P. O. Box 2594, S. Padre Island, TX 78597. \$15/year US, \$20 Canada, \$30 elsewhere.

**CHAMELEON INFORMATION NETWORK:** The CiN is a member supported organization with an interest in the old world family of Chamaeleonidae. It publishes a quarterly publication (The CiN Newsletter) for \$12/4 issues, \$22/8 issues. Foreign subscribers add \$1.50 for each issue. For subscription information contact: Ken Kalisch, 412 West E St., Encinitas, CA 92024. Tel.: (619) 436-7978. Send all payments to: Ardi Abate, 13419 Appalachian Way, San Diego, CA 92129.

**INTERNATIONAL HYLID SOCIETY:** A new, non-profit organization dedicated to treefrogs enthusiasts worldwide. "The Bulletin of the International Hylid Society" will be published quarterly starting in January/February 1996. Membership is \$15/calendar year. For information or membership contact: William Brown, Amphibian Conservation and Research Center, 1423 Alabama St., Lafayette, IN 47905 USA. Tel: (317) 742-5331; e-mail: 102436.2415@compuserve.com.

### **NEW MEMBERS**

**John DiLello (New Jersey)**

**April Kirkendoll (Florida)**

**David Levy (New York)**

**Anna Yellin (Maryland)**